Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

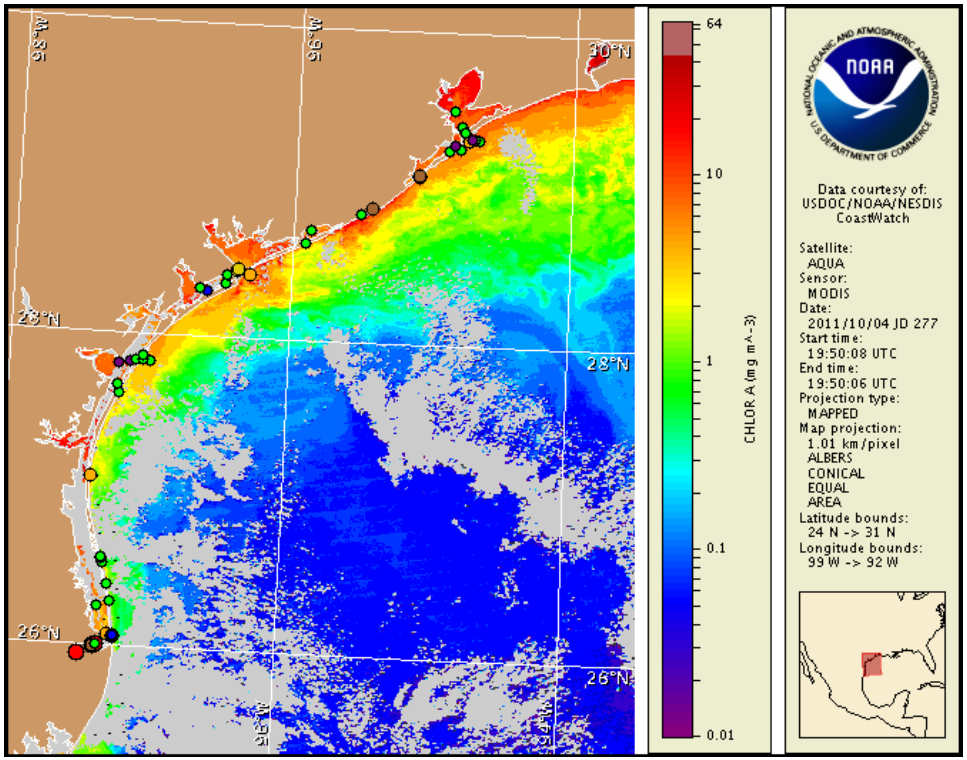
Thursday, 06 October 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, October 3, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from September 26 to October 5 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

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To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom has been identified along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, alongshore Padre Island National Seashore, alongshore the South Padre Island region, within the Brownsville Ship Channel area, and within the lower Laguna Madre. Patchy low impacts are possible in the Galveston/Freeport region, and patchy high impacts are possible in the Matagorda Peninsula region today through Monday. Patchy high impacts are possible alongshore Padre Island National Seashore today through Friday, with patchy moderate impacts possible Saturday through Sunday and patchy low impacts possible on Monday. Patchy low impacts are possible along the southern end of South Padre Island today through Sunday, with patchy very low impacts possible on Monday. Patchy high impacts are possible within the Brownsville Ship Channel area today through Sunday, with patchy moderate impacts possible Monday. Patchy moderate impacts are possible in the lower Laguna Madre today, Saturday and Sunday, with patchy high impacts possible Friday, and patchy low impacts possible Monday. No impacts are expected elsewhere alongshore Texas today through Monday, October 10. Reports of dead fish have been received from the Port OConnor region and alongshore South Padre Island, near the Mansfield jetties.

Analysis

Due to the upcoming Federal Holiday, the next bulletin will be issued on Tuesday, October 11.

A harmful algal bloom has been identified along the Texas coast in the Galveston/Freeport area, alongshore the Matagorda Peninsula and within Matagorda Bay, alongshore Padre Island National Seashore, alongshore the South Padre Island region, within the Brownsville Ship Channel area, and within the lower Laguna Madre. *Karenia brevis* has been identified within the Galveston Bay region. One sample collected from the Galveston Channel indicates 'medium' concentrations of *K. brevis* (10/4; TPWD). Three samples from San Luis Pass indicate the presence of *K. brevis* in 'low a' concentrations (10/3-4; TPWD). Of eight samples collected within Galveston Bay, only one shore sample collected from the east end of Seawall indicates the presence of 'very low a' concentrations of *K. brevis* (10/3-4; TPWD). One of two samples collected from West Bay indicates 'very low a' concentrations of *K. brevis* (10/4; TPWD). In the Freeport region, a sample collected from the San Bernard River at the Intracoastal Waterway indicates 'low a' concentrations of *K. brevis*, but *K. brevis* was 'not present' in a sample collected from Cedar Lakes (10/4; TPWD). Two samples collected from East Matagorda Bay indicate *K. brevis* is still 'not present' (10/4; TPWD). In the Port O'Connor region, one coastal sample from Big Jetties indicates 'medium' concentrations of *K. brevis*, while both samples collected within Matagorda Bay indicate 'low b' concentrations (10/5; TPWD). *K. brevis* was present in 'very low b' concentrations in one sample collected from Espiritu Santo Bay, but was 'not present' in a sample collected from San Antonio Bay (10/5; TPWD). Further south, *K. brevis* was 'not present' in two samples collected from the coastal Port Aransas area (10/4; TPWD). *K. brevis* was 'not present' in four samples collected from the Aransas Bay and Corpus Christi Bay region (10/4; TPWD). A sample collected from Big Shell Beach alongshore Padre Island National Seashore indicates 'medium' concentrations of *K. brevis* (10/4; TPWD). One sample from the Port Mansfield jetty region indicates *K. brevis* is still 'not present' (10/4; TPWD). Continued sampling from the lower

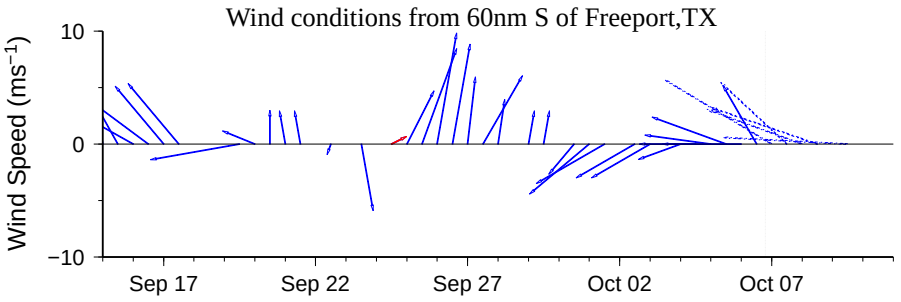
Laguna Madre along the west end of the Queen Isabella Memorial Causeway indicates that *K. brevis* concentrations may have increased to 'medium' (10/3; TPWD). Along the coast, an additional three samples collected at the UTPA Coastal Studies Lab indicate that *K. brevis* remains between 'very low b' and 'low a' concentrations (10/3-5; TPWD). Five samples from the Brazos-Santiago Pass area indicate that *K. brevis* remains between 'very low a' to 'low a' concentrations (10/3-5; TPWD). One sample collected within the Brownsville Ship Channel at Bahia Grande indicates that *K. brevis* may have decreased to 'not present' concentrations (10/3; TPWD).

The bloom in the Galveston/Freeport area has resulted in shellfishing restrictions in the following areas of Galveston Bay: Conditionally Approved Area 1, Central and East Approved Areas, and the Smith Point Approved Area (10/5; TPWD). Dead fish have been reported from Port O'Connor front beach and Dolphin Point Marina and near the Mansfield jetties stretching approximately two miles south alongshore South Padre Island (10/6; TPWD).

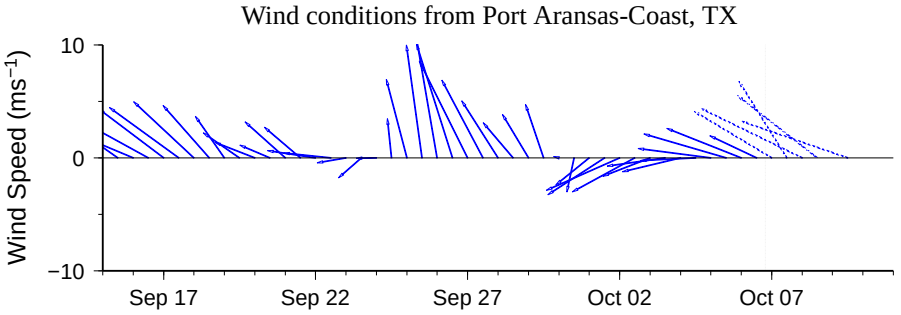
Recent MODIS imagery (10/4, shown page 1) is partially obscured by clouds along the Texas coast in the Padre Island area. Near where the harmful algal bloom was identified in northern Texas, a feature of elevated to very high chlorophyll (2 to >20 μg/L) remains visible along- and offshore the coast south of San Luis Pass to just south of Pass Cavallo, stretching from 29°3'21''N 95°7'35''W to 28°15'40''N 96°26'4''W and extending approximately 15 km offshore at its widest point. The feature is densest alongshore just north of the coastal East Matagorda Bay region. However, patches of high to very high chlorophyll (10 to >20 μg/L) are also visible along- and offshore the coast from the East Matagorda Bay region to approximately 15 km south of Pass Cavallo. Continued sampling in this area is recommended. A band of elevated chlorophyll (2 to <10 μg/L) is also visible stretching along- and offshore of the Texas coast from the Sabine Pass region to South Padre Island, with patches of high chlorophyll (>10 μg/L) visible along the coast from Sabine Pass to San Luis Pass area. Elevated chlorophyll at the coast may contain *K. brevis* but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of the blooms from satellite imagery alone.

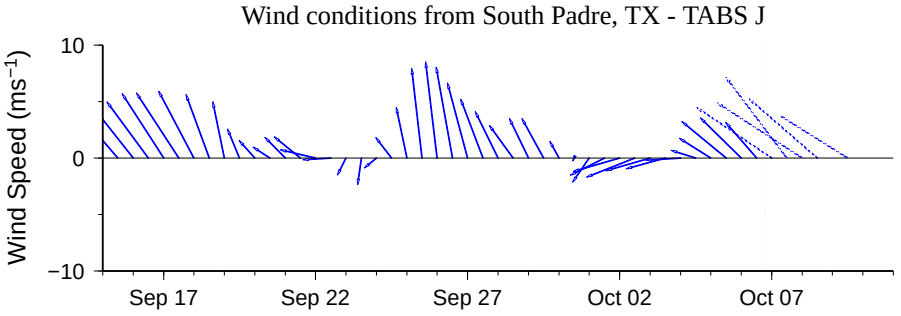
Forecast models indicate a maximum bloom transport of between 90-110 km south from coastal sample locations in the Galveston/Freeport area, 20 km south from coastal sample locations in the Padre Island National Seashore area, and negligible (<10 km) transport along the coast from coastal sample locations in the Brazos Santiago Pass area from October 4 to 9. Forecast models also indicate a maximum transport of 40 km south along the coast from Port Aransas from October 4 to 9.

Kavanaugh, Derner



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



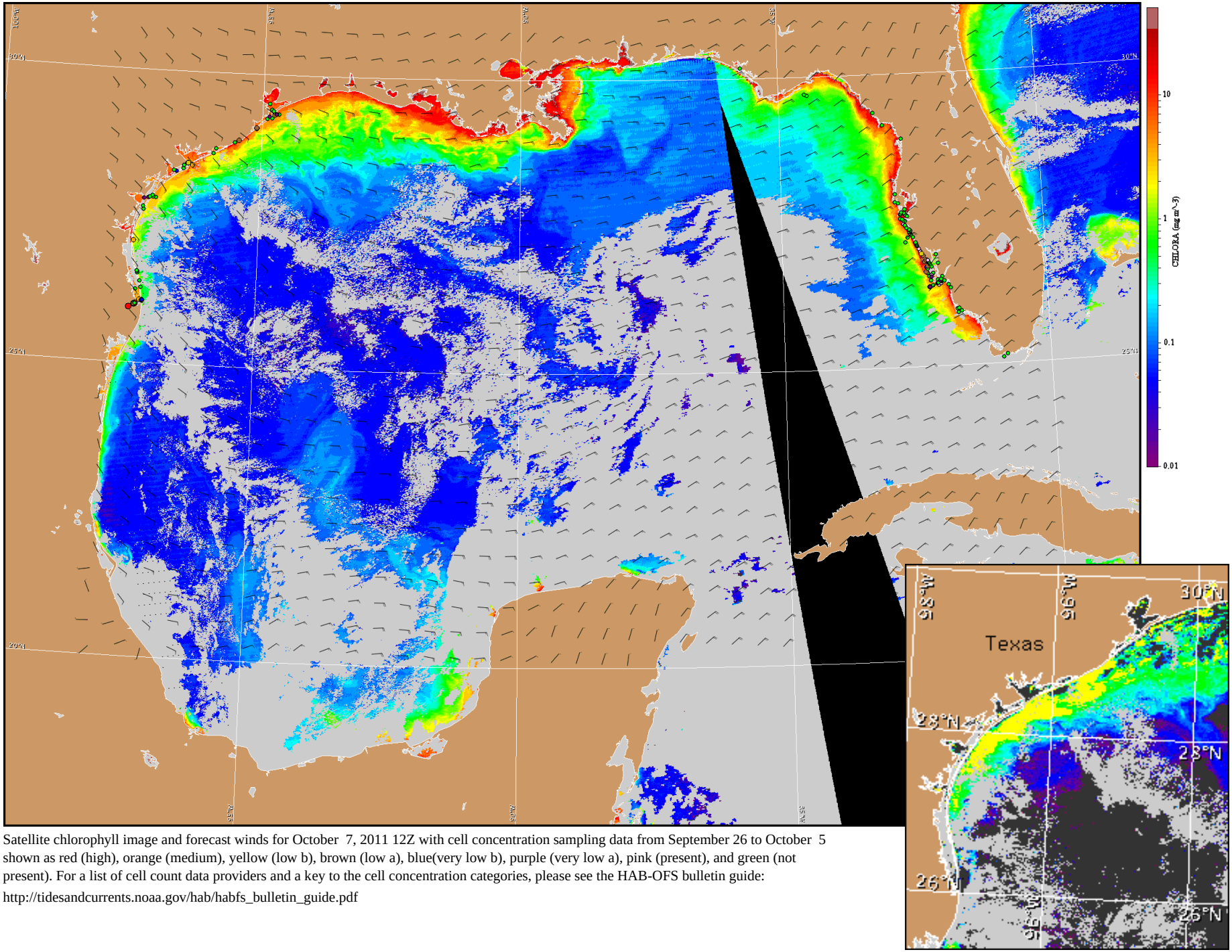


Wind Analysis

Galveston and Freeport area: Southeast winds (15-20 kn, 8-10 m/s) today through Friday evening. East winds (10-20 kn, 5-10 m/s) Saturday through Monday.

Padre Island: Southeast winds (15-20 kn) today through Friday evening. East winds (15 kn, 8 m/s) Saturday through Sunday. Light winds Monday.

Port Aransas: Southeast winds (10-20 kn) today through Friday. East winds (15-20 kn) Saturday through Sunday. Northeast winds (10-15 kn, 5/8 m/s) Monday.



Satellite chlorophyll image and forecast winds for October 7, 2011 12Z with cell concentration sampling data from September 26 to October 5 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide: http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).